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SHURE®

PSM®900

Personal Monitor Wireless System

Guide de l’utilisation du système de retour personnel

Personal Monitor System Bedienungsanleitung

Guía del usuario del sistema de monitoreo personal

Guida all’uso del sistema di monitoraggio personale

Manual do Usuário do Sistema de Monitoração Pessoal

Система личного монитора беспроволочная

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⚠ WARNING!

LISTENING TO AUDIO AT EXCESSIVE VOLUMES CAN CAUSE PERMANENT HEARING DAMAGE.
USE AS LOW A VOLUME AS POSSIBLE.

Over exposure to excessive sound levels can damage your ears resulting in permanent noise-induced hearing loss **(NIHL)**. Please use the following guidelines established by the Occupational Safety Health Administration **(OSHA)** on maximum time exposure to sound pressure levels before hearing damage occurs.

90 dB SPL at 8 hours	**95 dB SPL** at 4 hours	**100 dB SPL** at 2 hours	**105 dB SPL** at 1 hour
110 dB SPL at ½ hour	**115 dB SPL** at 15 minutes	**120 dB SPL** Avoid or damage may occur	

SAFETY PRECAUTIONS

The possible results of incorrect use are marked by one of the two symbols - "WARNING" AND "CAUTION" - depending on the imminence of the danger and the severity of the damage.

⚠ WARNING: Ignoring these warnings may cause severe injury or death as a result of incorrect operation.

⚠ CAUTION: Ignoring these cautions may cause moderate injury or property damage as a result of incorrect operation.

⚠ WARNING

- If water or other foreign objects enter the inside of the device, fire or electric shock may result.
- Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

⚠ CAUTION

- Never disassemble or modify the device, as failures may result.
- Do not subject to extreme force and do not pull on the cable or failures may result.
- Keep the microphone dry and avoid exposure to extreme temperatures and humidity.

⚠ ADVERTENCIA

EL ESCUCHAR REPRODUCCIONES DE AUDIO A NIVELES EXCESIVOS DE VOLUMEN PUEDE CAUSAR DAÑOS PERMANENTES AL OIDO. USE EL VOLUMEN MAS BAJO POSIBLE.

La exposición prolongada a niveles sonoros excesivamente intensos puede dañar los oídos y causar una pérdida permanente del oído causada por ruidos. Respete los lineamientos dados a continuación, los cuales fueron establecidos por la Administración de Salud y Seguridad Ocupacional **(OSHA)** de los EE.UU. e indican el tiempo máximo que puede escucharse un nivel determinado de presión sonora (SPL) antes de producirse daños al oído.

90 dB SPL por 8 horas	**95 dB SPL** por 4 horas	**100 dB SPL** por 2 horas	**105 dB SPL** por 1 hora
110 dB SPL por 1/2 hora	**115 dB SPL** por 15 minutos	**120 dB SPL** Evítese por completo, puesto que puede causar daños inmediatos	

PRECAUCIONES DE SEGURIDAD

Los posibles resultados del uso incorrecto de este producto se denotan por medio de uno de dos símbolos - "ADVERTENCIA" y "PRECAUCION" - según la inminencia del peligro y el grado de severidad de los daños.

⚠ ADVERTENCIA: Si se pasan por alto estas advertencias se podría causar lesiones graves o mortales como resultado del uso incorrecto.

⚠ PRECAUCION: Si se pasan por alto estas precauciones se podría causar lesiones moderadas y daños a la propiedad como resultado del uso incorrecto.

⚠ ADVERTENCIA

- Si el agua u otros objetos extraños penetran el dispositivo, se podría causar un incendio o sacudidas eléctricas.
- No intente modificar este producto. Hacerlo podría causar lesiones personales y/o la falla del producto.

⚠ PRECAUCION

- Nunca desarme ni modifique el dispositivo, ya que esto podría causar fallas.
- No someta el aparato a fuerzas extremas ni tire de su cable, ya que esto podría causar fallas.
- Mantenga el micrófono seco y evite exponer el aparato a niveles extremos de temperatura y humedad.

⚠ ACHTUNG!

MÖGLICHST GERINGE LAUTSTÄRKEPEGEL VERWENDEN.

Längerfristiges Hören bei übermäßigen Schallpegeln kann zu Hörschäden und zu permanentem, durch Lärm verursachten Gehörverlust führen. Bitte orientieren Sie sich an den folgenden von der Occupational Safety Health Administration **(OSHA; US-Arbeitsschutzbehörde)** erstellten Richtlinien für die maximale zeitliche Belastung durch Schalldruckpegel, bevor es zu Hörschäden kommt.

bei 90 dB Schalldruckpegel max. 8 Stunden	**bei 95 dB Schalldruckpegel** max. 4 Stunden	**bei 100 dB Schalldruckpegel** max. 2 Stunden	**bei 105 dB Schalldruckpegel** max. 1 Stunde
bei 110 dB Schalldruckpegel max. ½ Stunde	**bei 115 dB Schalldruckpegel** max. 15 Minuten	**120 dB Schalldruckpegel** vermeiden; ansonsten können Schäden auftreten	

SICHERHEITSVORKEHRUNGEN

Die möglichen Folgen des fehlerhaften Gebrauchs, die durch eines der beiden Symbole - „ACHTUNG" und „VORSICHT" - markiert sind, hängen von der Unmittelbarkeit der bevorstehenden Gefahr und des Schweregrads der Beschädigung ab.

⚠ ACHTUNG: Die Nichtbeachtung dieser Warnhinweise kann schwere oder tödliche Verletzungen infolge des fehlerhaften Gebrauchs verursachen.

⚠ VORSICHT: Die Nichtbeachtung dieser Vorsichtshinweise kann mittelschwere Verletzungen oder Sachschäden infolge des fehlerhaften Gebrauchs verursachen.

⚠ ACHTUNG

- Falls Wasser oder andere Fremdstoffe/-körper in das Gerät gelangen, kann es zu Bränden oder Stromschlägen kommen.
- Nicht versuchen, dieses Produkt zu modifizieren. Ansonsten könnte es zu Verletzungen und/oder zum Produktausfall kommen.

⚠ VORSICHT

- Das Gerät nie auseinanderbauen oder modifizieren, da dies zu Ausfällen führen kann.
- Keinen extremen Kräften aussetzen und nicht am Kabel ziehen, da dies zu Ausfällen führen kann.
- Das Mikrofon trocken halten und keinen extremen Temperaturen oder extremer Luftfeuchtigkeit aussetzen.

⚠ AVERTISSEMENT !

L'ÉCOUTE AUDIO À UN VOLUME SONORE EXCESSIF PEUT CAUSER DES LÉSIONS AUDITIVES PERMANENTES. RÉGLER LE VOLUME LE PLUS BAS POSSIBLE.

Une surexposition à des volumes sonores excessifs peut causer des lésions aux oreilles entraînant une perte auditive permanente due au bruit. Se conformer aux directives ci-dessous, établies par l'Occupational Safety Health Administration **(OSHA)** pour les limites de durée d'exposition aux pressions acoustiques (SPL) avant de risquer des lésions auditives.

SPL de 90 dB pendant 8 heures	**SPL de 95 dB** pendant 4 heures	**SPL de 100 dB** pendant 2 heures	**SPL de 105 dB** pendant 1 heure
SPL de 110 dB pendant 1/2 heure	**SPL de 115 dB** pendant 15 minutes	**SPL de 120 dB** À éviter : risque de lésions auditives	

PRÉCAUTIONS DE SÉCURITÉ

Les résultats possibles d'une utilisation incorrecte sont signalés par l'un des deux symboles - AVERTISSEMENT et ATTENTION - selon l'imminence du danger et la sévérité des dommages.

⚠ AVERTISSEMENT : L'ignorance de ces avertissements peut causer des blessures graves ou la mort suite à une utilisation incorrecte.

⚠ ATTENTION: L'ignorance de ces mises en garde peut causer des blessures modérées ou des dégâts matériels suite à une utilisation incorrecte.

⚠ AVERTISSEMENT

- Si de l'eau ou autres matériaux étrangers pénètrent dans l'appareil, il y a risque d'incendie ou de choc électrique.
- Ne pas essayer de modifier ce produit. Une telle opération est susceptible d'entraîner des blessures ou la défaillance du produit.

⚠ ATTENTION

- Ne jamais désassembler ou modifier cet appareil sous peine de provoquer des défaillances.
- Ne pas soumettre le câble à des forces extrêmes et ne pas tirer dessus sous peine de provoquer des défaillances.
- Maintenir le microphone sec et éviter de l'exposer à des températures extrêmes et à l'humidité.

⚠ AVVERTENZA

L'ASCOLTO A VOLUME ECCESSIVAMENTE ELEVATO PUÒ DANNEGGIARE L'UDITO IN MODO PERMANENTE. MANTENETE IL VOLUME AL PIÙ BASSO LIVELLO POSSIBILE.

La sovraesposizione a livelli sonori eccessivi può danneggiare l'udito provocando una perdita di udito permanente causata dal rumore. Si consiglia di attenersi alle seguenti direttive stabilite dalla **OSHA** (Occupational Safety Health Administration) sul tempo massimo di esposizione a vari livelli di pressione sonora (SPL), oltre il quale si rischia di causare lesioni all'apparato uditivo.

90 dB di SPL per 8 ore	**95 dB di SPL** per 4 ore	**100 dB SPL** per 2 ore	**105 dB di SPL** per 1 ora
110 dB di SPL per mezz'ora	**115 dB di SPL** per 15 minuti	**120 dB di SPL** Evitate l'esposizione per non rischiare di danneggiare l'udito	

PRECAUZIONI DI SICUREZZA

I possibili effetti di un uso errato sono contrassegnati da uno dei due simboli - “AVVERTIMENTO” E “ATTENZIONE” — a seconda dell'incombenza del pericolo e della gravità del danno.

⚠ AVVERTIMENTO: come conseguenza di un funzionamento errato, ignorare questi messaggi può comportare lesioni personali gravi o mortali.

⚠ ATTENZIONE: come conseguenza di un funzionamento errato, ignorare questi messaggi può comportare lesioni personali di media gravità o danni alla cose.

⚠ AVVERTIMENTO:

- L'eventuale introduzione di acqua o di altri corpi estranei nel dispositivo può dare luogo allo sviluppo di incendi o a folgorazione.
- Non tentate di modificare il prodotto. Tale operazione può causare infortuni e/o il guasto del prodotto stesso.

⚠ ATTENZIONE

- Per evitare di provocare possibili danni, non smontate nè modificate il dispositivo.
- Per evitare di provocare possibili danni, non applicate una forza estrema sul cavo e non tiratelo.
- Mantenete il prodotto asciutto e non esponetelo a temperature estreme ed all'umidità.

⚠ ATENÇÃO!

OUVIR O SOM COM VOLUME MUITO ALTO PODE CAUSAR DANOS PERMANENTES À AUDIÇÃO. USE O VOLUME MAIS BAIXO POSSÍVEL.

A exposição a sons excessivamente altos pode danificar os ouvidos e resultar em perda permanente da audição devido ao ruído. Siga as recomendações estipuladas pela Administração de Saúde e Segurança do Trabalho dos E.U.A. (U.S. Occupational Safety Health Administration-**OSHA**) sobre o máximo tempo de exposição a determinados níveis de pressão sonora (SPL) a fim de evitar danos à audição.

90 dB SPL por 8 horas	**95 dB SPL** por 4 horas	**100 dB SPL** por 2 horas	**105 dB SPL** por 1 hora
110 dB SPL por ½ hora	**115 dB SPL** por 15 minutos	**120 dB SPL** Evite ou poderá ocorrer dano	

MEDIDAS DE SEGURANÇA

Os possíveis resultados do uso incorreto são marcados por um de dois símbolos - “ATENÇÃO” e “CUIDADO” - dependendo da iminência do perigo e da severidade
do dano.

⚠ TENÇÃO: Não seguir esses avisos de atenção pode causar lesão grave ou morte em conseqüência da operação incorreta.

⚠ CUIDADO: Não seguir esses avisos de cuidado pode causar lesão moderada ou danos à propriedade em conseqüência da operação incorreta.

⚠ ATENÇÃO

- Incêndio ou choque elétrico pode ocorrer caso água ou objetos estranhos entrem no dispositivo
- Não tente modificar este produto. pois pode resultar em lesão pessoal e/ou falha do produto.

⚠ CUIDADO

- Não desmonte ou modifique o dispositivo uma vez que pode resultar em falhas.
- Não sujeite à força demasiada e não puxe o cabo pois pode resultar em falhas.
- Mantenha o microfone seco e evite expor a temperaturas extremas e umidade.

⚠ ВНИМАНИЕ:

ПРОСЛУШИВАНИЕ ЗВУКА ПРИ ЧРЕЗМЕРНО ВЫСОКОЙ ГРОМКОСТИ МОЖЕТ ПРИВЕСТИ К НЕОБРАТИМОМУ ПОВРЕЖДЕНИЮ СЛУХА.ИСПОЛЬЗУЙТЕ КАК МОЖНО БОЛЕЕ НИЗКУЮ ГРОМКОСТЬ.

Длительное воздействие звука чрезмерно высокого уровня может причинить вам вред, вызвав необратимую потерю слуха из-за шума. Во избежание потери слуха руководствуйтесь следующими правилами, установленными Управлением охраны труда **(OSHA)** в отношении максимального времени воздействия различных уровней звукового давления (УЗД).

УЗД 90 дБ 8 часов	**УЗД 95 дБ** 4 часа	**УЗД 100 дБ** 2 часа	**УЗД 105 дБ** 1 час
УЗД 110 дБ 1/2 часа	**УЗД 115 дБ** 15 минут	**УЗД 120 дБ** Недопустимо — ведет к повреждению слуха	

УКАЗАНИЯ ПО ТЕХНИКЕ БЕЗОПАСНОСТИ

Возможные результаты неправильного использования отмечены одним из двух знаков - «ВНИМАНИЕ» и «ОСТОРОЖНО» - в зависимости от неизбежности опасности и серьезности повреждений.

⚠ ВНИМАНИЕ: Игнорирование этих предупреждений может привести к серьезной травме или смерти в результате неправильной эксплуатации.

⚠ ОСТОРОЖНО: Игнорирование этих предупреждений может привести к незначительной травме или повреждению имущества в результате неправильной эксплуатации.

⚠ ВНИМАНИЕ

- Если в устройство попадет вода или иные посторонние предметы, это может привести к возгоранию или поражению электрическим током.
- Не пытайтесь модифицировать это изделие. Это может привести к личной травме и (или) поломке изделия.

⚠ ОСТОРОЖНО

- Ни в коем случае не разбирайте и не модифицируйте это устройство, поскольку это может привести к поломке.
- Не подвергайте сильным нагрузкам и не тяните за кабель - это может привести к поломке.
- Содержите микрофон сухим и не подвергайте его воздействию очень высоких или низких температур и влажности.

PSM900

The PSM 900 Wireless Personal Monitor System from Shure offers an unprecedented combination of superb audio quality, robust RF performance, and category-leading setup features for the most demanding professional applications. All new, patent-pending CueMode allows the sound engineer to monitor different stage mixes with the touch of a button. Precision front-end RF filtering significantly reduces dropouts from RF interference, and the enhanced digital stereo encoder provides excellent stereo separation and audio clarity.

Features

Superb audio quality

- Digital stereo encoder provides a wider stereo field with exceptional separation, enhancing audio detail and clarity
- Patented Audio Reference Companding sounds more like wired
- Available with Shure SE425 Sound Isolating™ Earphones featuring dual high-definition MicroDrivers for accurate and balanced audio response

Robust RF Performance

- Precision front-end RF filtering for a cleaner, stronger RF signal and fewer dropouts and audible artifacts.
- Exceptional transmitter linearity vastly reduces frequency intermodulation, allowing more channels per frequency band.
- Automatic RF gain control prevents signal distortion due to RF overload.

Advanced Setup and Operation

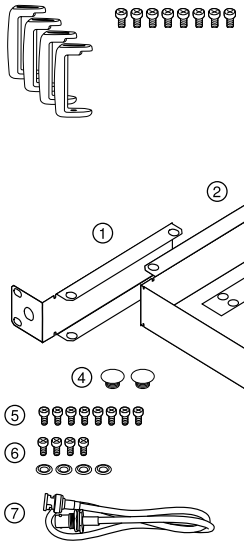
- Patent-pending CueMode allows monitoring of the stage mixes of up to 20 separate transmitters from one bodypack.
- Front panel RF mute switch for disabling RF transmission during setup
- Scan and Sync setup identifies the best group and channel for your system and assigns it over a wireless IR link
- MixMode® Technology allows the bodypack user to adjust their own onstage monitor mix
- High-frequency EQ boost on bodypack

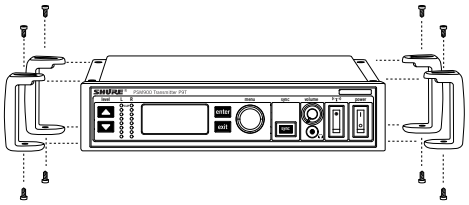
Components

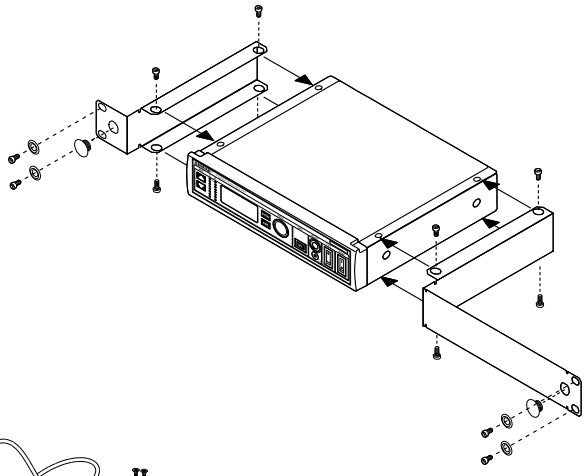
- **P9T:** Rack Unit Transmitter
- **P9R:** Bodypack Receiver
- **PS41:** Power supply
- Protective bumpers with 8 screws

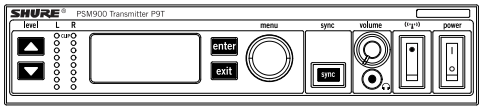
Rackmount supplies

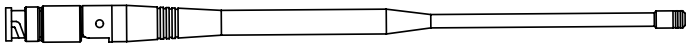
① Short rack ear
② Long rack ear
③ Link bar to mount to similar rack unit
④ 2 antenna hole plugs
⑤ 8 rack ear screws
⑥ 4 rack mount screws with washers
⑦ Extension cables and connectors for front-mounting antennas

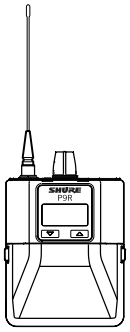


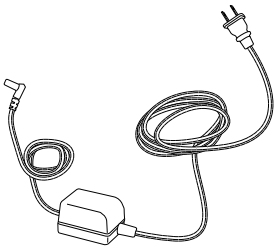


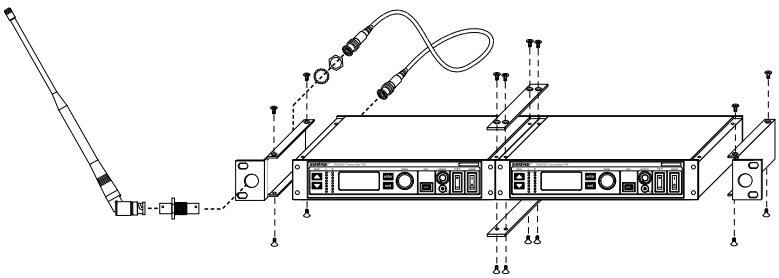












Quickstart Instructions

Rack Unit

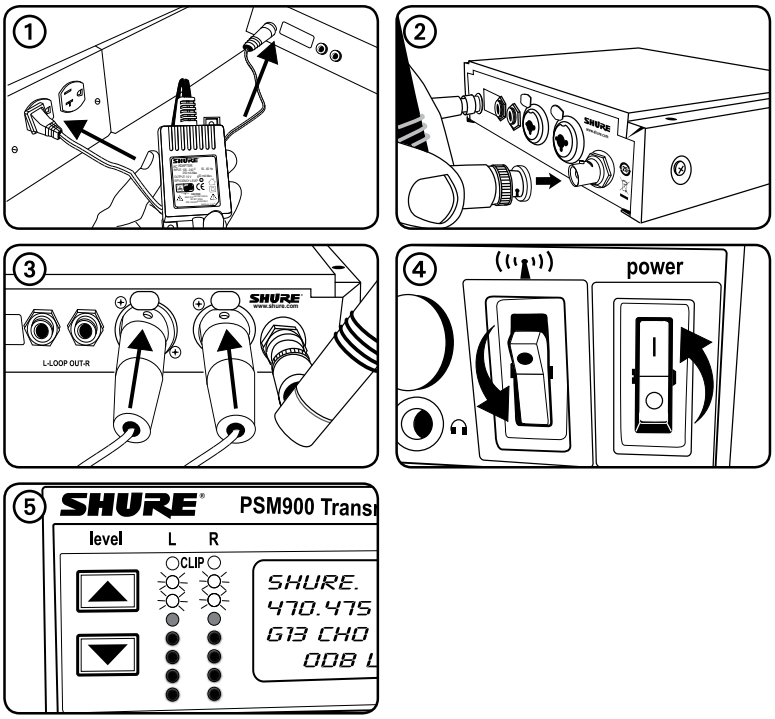
1. Connect to a power outlet using the supplied power adapter.
2. Attach the supplied antenna to the ANTENNA OUT BNC connector.
3. Connect the audio source, such as the output of a mixer, to the audio inputs. You can use both input jacks or choose either one for a mono source.

   – For mono (one input), access the **AUDIO** menu and select **MONO**.

   – Set the input sensitivity to match the source by selecting **AUDIO>INPUT** from the LCD configuration menu: **AUX –10dBV** or **LINE+4dBu**.
4. Turn the power ON. Make sure the RF switch is OFF.
5. Adjust the audio source level so that, for the average input signal level, the top two yellow LEDs flicker and the lower LEDs are solid.

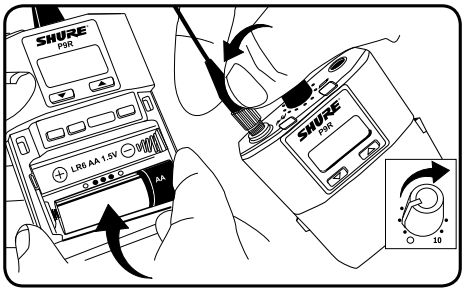
   – If the red **clip** LED illuminates, the inputs are overdriven. Decrease the level using the ▼▲ buttons or change the input sensitivity to +4 dBu.

   – If the signal level is too low, change the input sensitivity to –10 dBV.



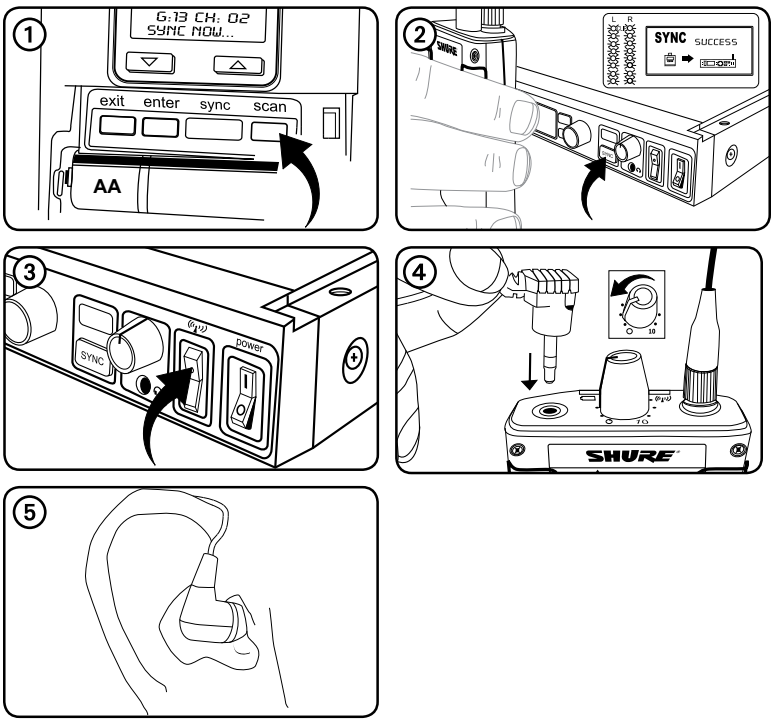
Bodypack

Insert batteries and attach antenna. Turn on using the volume knob. The battery light illuminates.

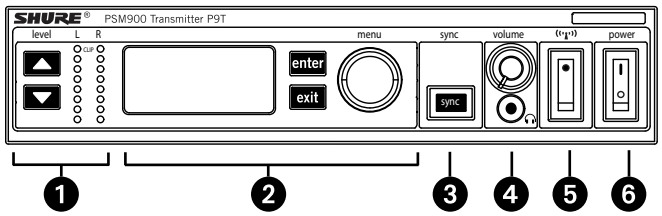


Scan and Sync

1. Press the **scan** button. The display flashes **SYNC NOW...**.
2. Align the IR windows on the bodypack and rack unit and press the **sync** button. The rack unit **level** LEDs flash, and it displays **SYNC SUCCESS**.
3. Turn the RF switch on. The blue RF LED illuminates on the bodypack to indicate that it is detecting the transmitter. The bodypack also displays the RF signal strength (**RF**).
4. IMPORTANT: Turn bodypack volume down before plugging in earphones.
5. Insert the earphones and slowly turn up the volume.

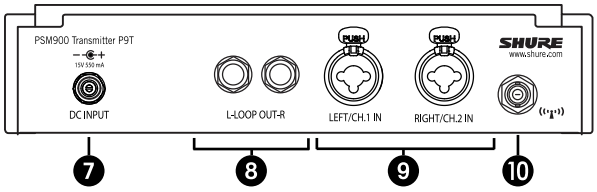


P9T Rack Unit Transmitter



Front Panel Controls

① **Input Level Control and Display** Use the ▼▲ buttons to adjust the audio so that, for the average input signal level, the top two yellow LEDs flicker and the lower LEDs are solid. The red **clip** LED indicates the inputs are overdriven. Reduce the level at the audio source or change the input sensitivity of the rack unit from the **AUDIO>INPUT** menu.
② **Status Display and Menu Controls** Use the **enter** and **exit** buttons and the menu wheel to access the configuration menu. Push the menu wheel to move the cursor to the next item. Turn the menu wheel to change a parameter—the **enter** button flashes. Press it to save the value. Press the **exit** button to cancel changes and return to the previous menu.
③ **Synchronization Button** Press the **sync** button while rack unit and bodypack IR windows are aligned to transfer settings.
④ **Headphone Monitoring** The **volume** control adjusts signal output to the 3.5 mm headphone jack. NOTE: it does not affect rear panel outputs.
⑤ **RF switch** mutes RF output. For setting up multiple systems or adjusting settings without transmitting unwanted RF or audio signals.
⑥ **Power Button** Turns the unit on and off.



Rear Panel Connectors

⑦ **Power** Connect the transmitter to a power outlet using the supplied power adapter.
⑧ **LOOP OUT** Sends a copy of the audio signal going into the transmitter to another device. See LOOP Applications.
⑨ **Audio Inputs** Connect to balanced or unbalanced outputs. Use either connector for mono input. Accepts both 1/4-inch or male XLR connectors.
⑩ **Antenna (BNC)** Attach supplied antenna. If you are rack mounting, use a front panel or remote mounting kit from Shure.

RF Settings

RADIO	
G	Sets the group number
CH	Sets the channel number
888.888MHz	Manual frequency selection
RF POWER	Select from 10, 50, or 100 mW (varies by region)

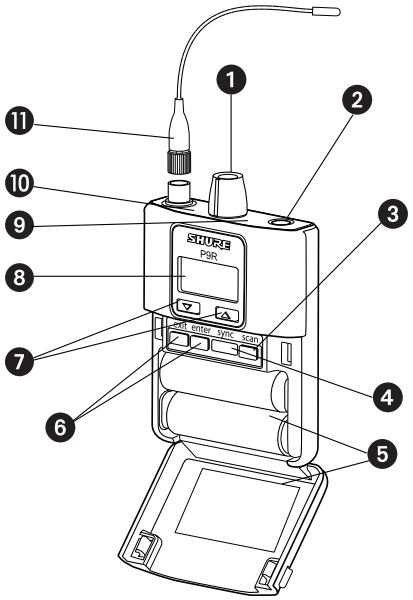
Audio Settings

AUDIO		
MODE	Selects monitor mode	
	STEREO/MX	Transmits both channels
	MONO	Transmits a mono signal to bodypack
INPUT	Sets nominal input level	
	LINE +4 dBu	line level
	AUX -10dBV	aux level

Utilities and Display Settings

UTILITIES		
EDIT NAME	Changes the name on the LCD display (this name is uploaded to the bodypack with sync)	
DISPLAY	Changes the display format	
CONTRAST	Changes the display contrast	
LOCK PANEL	Locks front panel controls. To unlock, press **exit**, select **OFF**, and press **enter**.	
	MENU+LEVEL	Locks **menu** and **level** controls.
	MENU ONLY	Locks only the configuration menu (**menu** controls).
	MENU+SWITCH	Locks all controls except for the level buttons (including the RF and power switches).*
	ALL	Locks all controls (including the RF and power switches).*
	*RF is automatically activated when locked. When you unlock the unit, RF and power turns off if the switches are off.	
RX SETUP	These settings are sent to the bodypack during a sync (when the sync direction is from the transmitter). The default **KEEP** parameter will not change the bodypack settings.	
	LOCK	Lock bodypack
	V LIMIT	Volume limiter
	LIM VAL	Volume limiter value
	MODE	Stereo (ST) or MixMode (MX)
	BAL MX	**CH. 1** (L) and **CH. 2** (R) mix for MixMode
	BAL ST	Left (L) and right (R) balance for stereo mode
	HIBOOST	high frequency boost
CUSTOM GROUP	For creating custom frequency groups	
RESET SYSTEM	Returns all settings to the factory defaults.	
	NO	Exit and do not reset system.
	YES	Reset system settings.

P9R Bodypack Receiver



Bodypack Receiver

① **Power Switch and Volume Control** Turns the bodypack on and off and adjusts earphone volume.
② **3.5 mm Earphone Jack** Insert earphones here.
③ **Scan Button** Press the scan button to find an available frequency. Press and hold for two seconds to find the group with the most available channels.
④ **IR Window** For transmitting settings between bodypack and rack unit.
⑤ **Battery Compartment** Requires 2 AA batteries. Open by pressing the latches on both sides and pulling.
⑥ **Menu buttons** Use in conjunction with the ▼▲ buttons to access the configuration menus.
⑦ **▼▲ Buttons** Use to adjust the audio mix (in MixMode only), or in conjunction with the menu buttons to change settings.
⑧ **LCD Screen** Displays current settings and menus.
⑨ **Tri-Color Battery LED** illuminates green, orange, red, or flashing red, to indicate battery power. When flashing red, change batteries immediately.
⑩ **Blue RF LED** Indicates the bodypack is receiving a signal from the transmitter.
⑪ **Detachable Antenna** SMA Connector

Battery Indicator	Tri-Color Battery LED	Approximate Hours Remaining	
		Alkaline	NiMH (2450 mAh)
	Green	5–7	4
	Green	3½–4	3–3½
	Green	3–3½	1½–2
	Green	2–2½	⅕
	Orange	½–1	0
	Red	⅕–½	0

RF Settings

RADIO		
G	Sets the group number	
CH	Sets the channel number	
888.888MHz	Manual frequency selection	

Audio Settings

AUDIO		
MODE	Selects monitor mode	
	STEREO	Stereo
	MIXMODE	MixMode
HIBOOST	High-frequency EQ boost	
	OFF	flat
	4 dB	+4 dB @ 10 kHz
	2 dB	+2 dB @ 10 kHz
V LIMIT		
	ON	Limits volume level
	VALUE	3–9: analogous to volume knob position (for example, 5 is equal to the 5th dot on the volume knob)
BAL ST / BAL MX	Left and right balance for earphones when in stereo mode, or mix of left and right channel for MixMode	

Utilities and Display Settings

UTILITIES	
CUEMODE	Enters CueMode (to exit, press **enter** and select EXIT CUEMODE)
DISPLAY	Changes the display format
CONTRAST	Changes the display contrast
LOCK PANEL	Locks all controls except power and volume. To unlock, press **exit**, select OFF, and press **enter**.

Multiple System Setup

When setting up multiple systems, designate a single bodypack to scan for available frequencies and download them to all the rack units.

The bodypack must be from the same frequency band as all the transmitters.

1. Power on all the rack units. **Turn off the RF**. (This prevents them from interfering with the frequency scan.)

   Note: Turn **on** all other wireless or digital devices as they would be during the performance or presentation (so the scan will detect and avoid any interferance they generate).

2. Use the bodypack to **scan for a group** by pressing and holding the **scan** button for **two seconds**. The bodypack displays the group and the number of available channels, and flashes **SYNC NOW...**.

   Important: Note the number of available channels. If you have more rack units than available channels, eliminate potential sources of interference and try again, or call Shure Applications for assistance.

3. Sync the bodypack with the first rack unit by aligning the IR windows and pressing **sync**.
4. Press **scan** again on the bodypack to find the next available frequency.
5. Sync the bodypack with the next rack unit.
6. Repeat with all the rack units.
7. Sync each performer's bodypack to its respective rack unit by aligning the IR windows and pressing **snyc**. DO NOT press scan on the bodypacks.
8. Turn on the RF on all rack units. The systems are ready to use.

MixMode for Multiple Systems

Configure each system for MixMode. From the mixing console, send a mix of the whole band to input 2 of the first transmitter. Connect the **LOOP OUT R** output to the **CH. 2 IN** input of the next transmitter. Continue the chain with all the transmitters.

Next, create solo mixes for each performer. Send each mix to input 1 of the transmitter for that performer.

CueMode

CueMode allows you to upload the name and frequency settings from multiple rack units and store them as a list on a single bodypack. You can then, at any time, scroll through that list to hear the audio mix from each transmitter, just as each performer does during a show.

CueMode lists are retained even if CueMode is exited, the bodypack is turned off, or batteries are removed.

Note: Set the channel frequency and assign display names for each transmitter **before** creating your CueMode list.

Adding Transmitters to the CueMode List

Note: The transmitter must be from the same frequency band as the bodypack.

1. Open the battery door and press the **enter** button.
2. From the main menu, scroll to **UTILITIES** and press **enter**. Select **CueMode** and press **enter** again.
3. Align IR windows and press **sync** on the rack unit.

   The LCD displays **SYNC SUCCESS** after frequency and name data are uploaded to the CueMode list. It also displays the CueMode number for that transmitter and the total number of transmitters.

4. Repeat the above step for each transmitter.

Note: Syncing while in CueMode does not change any of the settings on the bodypack.

Auditioning Mixes

1. Enter CueMode from the **UTILITIES** menu.
2. Use the ▼▲ buttons to scroll through your CueMode list to hear the mixes.

Exiting CueMode

Exit CueMode by pressing **enter** and selecting **EXIT CUEMODE**.

Managing CueMode Mixes

While in Cue Mode, you can access the following menu by pressing **enter**:

REPLACE MIX Select and press sync on a rack unit to upload new data for the current mix (for example, if you have changed the transmitter frequency).
DELETE MIX Removes the selected mix.
DELETE ALL Removes all mixes.
EXIT CUEMODE Exits CueMode and returns the bodypack to the previous frequency setting.

Frequency Scan

The scan feature analyzes the RF environment for interference to identify available frequencies. The PSM900 has two frequency scan modes:

- **Channel Scan** Press the **scan** button on the bodypack. Finds the first available channel.
- **Group Scan** Press and hold the **scan** button for two seconds. Finds the group with the greatest number of available channels. (Each group contains a set of frequencies that are compatible when operating multiple systems in the same environment.)

Sync

The PSM900 transfers settings in either direction: from the bodypack to the rack unit, or from the rack unit to the bodypack.

- **Sending settings to the bodypack:** Align the IR windows and press the **sync** button on the rack unit. The blue LED on the bodypack flashes.
- **Downloading settings from the bodypack:** First press the **scan** button on the bodypack. Then align the IR windows and press the **sync** button on the rack unit while the bodypack display is flashing “SYNC NOW...”. The **level** LEDs flash on the rack unit.

MixMode

Some performers need to hear more of their own voice or instrument, while others want to hear more of the band. With MixMode, the performer creates their own mix using the balance control (▼▲ buttons) on the bodypack.

To use MixMode, send a solo mix of the performer to the **CH. 1 IN** input on the transmitter, and send a band mix to the **CH. 2 IN** input.

Set the performer’s bodypack for MixMode. The bodypack combines the two signals and sends them to both earphones, while the balance control on the bodypack adjusts the relative levels for each.

LOOP Applications

Use **LOOP OUT** L (left) and R (right) outputs to send a copy of the audio signal going into the transmitter to other devices. Following are a few of the many applications for these outputs.

Note: The input level control and the input pad do not affect the **LOOP OUT** signals.

Stereo for Multiple Systems

Send one stereo signal from the mixing console to the inputs on the first transmitter, then connect the LOOP outputs to the inputs on the next transmitter. Repeat for all transmitters to form a chain.

Floor Monitors

Send the audio from the LOOP outputs to onstage loudspeakers. The bodypack and the onstage monitors receive the same audio signals.

Recording Devices

To record a performance, connect the LOOP outputs to the inputs of a recording device.

Squelch

Squelch mutes audio output from the bodypack when the RF signal become noisy. While squelch is activated, the blue LED on the bodypack turns off.

For most installations, squelch does not need adjustment, and it keeps the performer from hearing hiss or noise bursts if the RF signal becomes compromised. However, in congested RF environments or in close proximity to sources of RF interference (such as large LED video panels), the squelch may need to be lowered to prevent excessive audio dropouts. With lower squelch settings, the performer may hear more noise or hiss, but will experience fewer audio dropouts.

Note: Before lowering squelch, first try to eliminate the problem by finding the best set of frequencies for your installation and removing potential sources of interference.

Caution: Turning off or lowering the squelch setting can increase the noise level and cause discomfort to the performer:

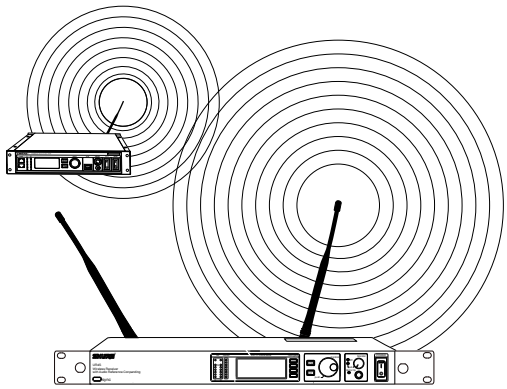
- Do not lower the squelch setting unless absolutely necessary.
- Turn earphone volume to the lowest setting before adjusting squelch.
- Do not change the squelch setting during a performance.
- Turn up the transmitter setting to make noise or hiss less noticeable.

Squelch Settings

`HIGH (NORMAL)`	Default factory setting.
`MID`	Moderately decreases the signal-to-noise ratio required to squelch the receiver.
`LOW`	Greatly decreases the noise squelch threshold.
`PILOT ONLY`	Turns off noise squelch leaving only pilot squelch on. Symbol appears in display window
`NO SQUELCH`	Turns off noise and pilot tone squelch. (Sometimes used as a debugging tool by monitor engineers or RF coordinators to “listen” to the RF environment.) Symbol appears in display window

Point-to-Point Wireless Audio

When a cable cannot be used, a UR4 receiver and a P9T transmitter can be used for point-to-point (PTP) wireless audio.



For more information on PTP, please visit:
www.shure.com/americas/products/personal-monitor-systems/psm900

SPECIFICATIONS

PSM900

RF Carrier Range
470–952 MHz
Note: varies by region

Compatible Frequencies
Per band: 20

Tuning Bandwidth
US: 36–40 MHz
varies by region

Operating Range (environment dependent)
90 m (300 ft)

Audio Frequency Response
35 Hz–15 kHz

Stereo Separation
60 dB

Signal-To-Noise Ratio (A-Weighted)
90 dB (typical)

Total Harmonic Distortion (ref. ±34 kHz deviation @1 kHz)
<0.8% (typical)

Companding
Patented Shure Audio Reference Companding

Spurious Rejection (ref. 12dB SINAD)
>80 dB (typical)

Frequency Stability
±2.5 ppm

MPX Pilot Tone
19 kHz (±0.3 kHz)

Modulation
FM*, MPX Stereo
* ±34 kHz deviation (nominal)

Operating Temperature
-18°C–+57°C

P9R

Front-End RF Filtering
–3 dB at 30.5 MHz from center frequency

Active RF Gain Control
31 dB
Adjusts RF sensitivity to provide more RF dynamic range

RF Sensitivity (at 20 dB SINAD)
2.2 µV

Image Rejection
>100 dB

Adjacent Channel Rejection
>70 dB

Squelch Threshold
22 dB SINAD (±3 dB)

Intermodulation Attenuation
>70 dB

Blocking
>80 dB

Audio Output Power (1kHz @ <1% distortion, peak power, @32Ω)
100 mW per output

Minimum Load Impedance
9.5 Ω

High Boost
selectable selectable: +2 dB , +4 dB @ 10 kHz

Volume Limiter
selectable selectable: 3–9
Reduces maxium output level. Selected value analogous to volume knob increment.

Net Weight
200 g (with batteries)

Dimensions
83 mm X 65 mm X 22 mm

Battery Life
5–7 hours (continuous use)

P9T

RF Output Power
selectable selectable: 10, 50, 100 mW (+20 dBm)
varies by region

RF Output Impedance
50 Ω (typical)

Net Weight
850 g

Dimensions
197 mm X 166 mm X 42 mm

Power Requirement
15 Vdc: 415 mA, typical

Audio Input

Connector Type
Combination XLR and 6.35 mm (1/4") TRS

Polarity
XLR: Non-inverting (pin 2 positive with respect to pin 3)
6.35 mm (1/4") TRS: Tip positive with respect to ring

Configuration
Electronically balanced

Impedance
70.2 kΩ (actual)

Nominal Input Level
switchable switchable: +4 dBu, –10 dBV

Maximum Input Level
+4 dBu: +29.2 dBu
–10 dBV: +12.2 dBu

Pin Assignments
XLR: 1=ground, 2=hot, 3=cold
6.35 mm (1/4") TRS: Tip=hot, Ring=cold, Sleeve=ground

Phantom Power Protection
up to 60 V DC

Audio Output

Connector Type
6.35 mm (1/4") TRS

Configuration
Electronically balanced

Impedance
Connected directly to inputs

Band	Range (MHz)	Output Power (mW)
G6	470-506	10 / 50 / 100
G6E	470-506	10 / 50
G7	506-542	10 / 50 / 100
G7E	506-542	10 / 50
K1	596-632	10 / 50 / 100
K1E	596-632	10 / 50
L6	656-692	10 / 50 / 100
L6E	656-692	10 / 50
P7	702-742	10 / 50
Q15	750-790	10 / 50
Q20	750-787	10 / 50
R20	794-806	10
R21	794-806	10 / 50
R22	790-830	10 / 50
A24	779-806	10
X2	925-932	10
X1	944-952	10 / 50 / 100

NOTE:
This Radio equipment is intended for use in musical professional entertainment and similar applications.
This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies and RF power levels for wireless microphone products.

ACCESSORIES AND PARTS

Furnished Accessories

P9R Antenna	
470–542 MHz	UA700
596–692 MHz	UA720
692–830 MHz	UA730
830–952 MHz	UA740
P9T Antenna	
470–530 MHz	UA820G
500–560 MHz	UA820G7
518–578 MHz	UA820H4
578–638 MHz	UA820J
638–698 MHz	UA820L3
690–746MHz	UA820B
740–814 MHz	UA820Q
774–865 MHz	UA820A
900–1000 MHz	UA820X
Front Mount Antenna Cable	95A9023
Zipper Bag	95A2313
Rackmount Bracket, Long	53A8612
Rackmount Bracket, Short	53A8611
Link Bar	53B8443
Hardware Kit (Rackmounting Screws)	90AR8100
Bumper Kit	90B8977
Energy Efficient Switching Power Supply	
USA	PS41US
Brazil	PS41BR
Argentina	PS41AR
Europe	PS41E
United Kingdom	PS41UK
Austrailia/New Zealand	PS41AZ
China	PS41CHN
Taiwan	PS41TW
Japan	PS41J

Optional Accessories

8-to-1 antenna combiner for better RF performance	PA821SWB
4-to-1 antenna combiner with power distribution to 4 transmitters (better RF performance and eliminates need for external power supply)	PA421SWB
Passive Directional Antenna	PA805SWB
Helical Antenna	HA-8089
Passive Omnidirectional Antenna	UA860SWB
4-Channel Personal Monitor Mixer	P4M
Coaxial Cable, BNC-BNC, RG58C/U type, 50 Ohm, 2 ft length (0.6 m)	UA802
Coaxial Cable, BNC-BNC, RG58C/U type, 50 Ohm, 6 ft length (2 m)	UA806
Coaxial Cable, BNC-BNC, RG8X/U type, 50 Ohm, 25 ft length (7.5 m)	UA825
Coaxial Cable, BNC-BNC, RG8X/U type, 50 Ohm, 50 ft length (15 m)	UA850
Coaxial Cable, BNC-BNC, RG213/U Type, 50 Ohm, 100 ft length (30 m)	UA8100

CERTIFICATION

P9T, P9R

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Meets requirements of EMC standards EN 300 422 Parts 1 and 2 and EN 301 489 Parts 1 and 9.

P9T

Certified under FCC Parts 74. (**FCC ID:** DD4P9TA, DD4P9TB, DD4P9TC, DD4P9TD, DD4P9TJ). Certified by IC in Canada under RSS-123 and RSS-102. (**IC:** 616A-P9TA, 616A-P9TB, 616A-P9TC, 616A-P9TD). Meets essential requirements of European R&TTE Directive 99/5/EC, eligible to bear the CE mark.

P9R

Approved under the Declaration of Conformity (DoC) provision of FCC Part 15. Certified in Canada by IC to RSS-123. (**IC:** 616A-P9RA, 616A-P9RB, 616A-P9RC, 616A-P9RD).

Operation of this device is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit www.shure.com The CE Declaration of Conformity can be obtained from:

Authorized European representative:
Shure Europe GmbH
Headquarters Europe, Middle East & Africa
Department: EMEA Approval
Wannenacker Str. 28
D-74078 Heilbronn, Germany
Phone: +49 7131 72 14 0
Fax: +49 7131 72 14 14
Email: EMEAsupport@shure.de

INFORMATION TO USER

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer.

Note: EMC conformance testing is based on the use of supplied and recommended cable types. The use of other cable types may degrade EMC performance.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

LICENSING INFORMATION

Licensing: A ministerial license to operate this equipment may be required in certain areas. Consult your national authority for possible requirements. Changes or modifications not expressly approved by Shure Incorporated could void your authority to operate the equipment. Licensing of Shure wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. Shure strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies.

PSM900 FREQUENCIES FOR EUROPEAN COUNTRIES

***IMPORTANT**

NOTE: THIS EQUIPMENT MAY BE CAPABLE OF OPERATING ON SOME FREQUENCIES NOT AUTHORIZED IN YOUR REGION. PLEASE CONTACT YOUR NATIONAL AUTHORITY TO OBTAIN INFORMATION ON AUTHORIZED FREQUENCIES AND RF POWER LEVELS FOR WIRELESS MICROPHONE PRODUCTS IN YOUR REGION.

A ministerial license may be required to operate this equipment in certain areas. Consult your national authority for possible requirements.

PSM 900-G6E 470 - 506 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, B, BG, CH, CY, CZ, D, EST	470 - 506 MHz *
F, GB, GR, H, I, IS, L, LT	470 - 506 MHz *
NL, P, PL, S, SK, SLO	470 - 506 MHz *
DK, FIN, M, N	*
HR, E, IRL, LV, RO, TR	*
All other Countries	*

PSM 900-P7 702 - 742 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, B, BG, CH, CY, CZ, D, EST	702 - 742 MHz *
F, GB, GR, H, I, IS, L, LT	702 - 742 MHz *
NL, P, PL, RO, S, SK, SLO	702 - 742 MHz *
DK, FIN, M, N	*
HR, E, IRL, LV, TR	*
All other Countries	*

PSM 900-G7E 506 - 542 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, B, BG, CH, CY, CZ, D, EST	506 - 542 MHz *
F, GB, GR, H, I, IS, L, LT	506 - 542 MHz *
NL, P, PL, S, SK, SLO	506 - 542 MHz *
DK, FIN, M, N	*
HR, E, IRL, LV, RO, TR	*
All other Countries	*

PSM 900-Q15 750 - 790 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, BG, CH, CY, CZ, D, EST	750 - 790 MHz *
F, GB, GR, H, I, IS, L, LT	750 - 790 MHz *
NL, P, PL, RO, S, SK, SLO	750 - 790 MHz *
B, DK, FIN, M, N	*
HR, E, IRL, LV, TR	*
All other Countries	*

PSM 900-K1E 596 - 632 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, BG, CH, CY, CZ, D, EST	596 - 632 MHz *
F, GB, GR, H, I, IS, L, LT	596 - 632 MHz *
NL, P, PL, S, SK, SLO	596 - 632 MHz *
B, DK, FIN, M, N	*
HR, E, IRL, LV, RO, TR	*
All other Countries	*

PSM 900-R22 790 - 830 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, BG, CH, CY, CZ, D, EST, F, GR,	790 - 830 MHz *
H, I, IS, L, LT, NL, P, PL, SLO	790 - 830 MHz *
DK, N	800.1 -819.9 MHz*
FIN	790.1 -821.9 MHz*
B, HR, E, GB, IRL, LV, M, RO, S, SK, TR	*
All other Countries	*

PSM 900-L6E 656 - 692 MHz, max. 10 - 50 mW, 100 mW	
Country Code	**Frequency Range**
Code de Pays	**Gamme de frequences**
Codice di paese	**Gamme di frequenza**
Código de país	**Gama de frequencias**
Länder-Kürzel	**Frequenzbereich**
A, BG, CH, CY, CZ, D, EST	656 - 692 MHz *
F, GB, GR, H, I, IS, L, LT	656 - 692 MHz *
NL, P, PL, RO, S, SK, SLO	656 - 692 MHz *
B, DK, FIN, M, N	*
HR, E, IRL, LV, TR	*
All other Countries	*

EU DECLARATION OF CONFORMITY

We, Shure Incorporated
of 5800 Touhy Avenue
Niles, Illinois, 60714-4608 U.S.A.
Phone: (847) 600-2000
Web: www.Shure.com

Declare under our sole responsibility that the following product

Model: P9R Description: Wireless PSM Receiver

conforms to the essential requirements and other relevant previsions of the R&TTE Directive (1999/5/EC).

The product complies with the following product family, harmonized or national standards:

ETS EN 301 489-1 V1.8.1 (2008-04)
ETS EN 301 489-9 V1.4.1 (2007-11)
ETSI EN 300 422-1 V1.3.2 (2008-03)
ETSI EN 300 422-2 V1.2.2 (2008-03)
EN 60065:2002 & Amendment 1:2006

The technical documentation is kept at:

Shure Incorporated, Corporate Quality Engineering Division
SHURE Europe GmbH, EMEA Approval

Manufacturer: Shure Incorporated

Signed: _____ Date: 15 February 2010
Name and Title: Craig Kozokar, EMC Project Engineer, Corporate Quality Engineering Division

European Representative: SHURE Europe GmbH

Signed: _____ Date: 15 February 2010
Name and Title: Wolfgang Bilz, Dipl. Ing. (FH), EMEA Approval
SHURE Europe GmbH
Headquarters Europe, Middle East & Africa
Wannenäcker Str. 28
D-74078 Heilbronn, Germany
Phone: +49 - (0)7131 - 7214 - 0
Fax: +49 - (0)7131 - 7214 - 14

EU DECLARATION OF CONFORMITY

We, Shure Incorporated
of 5800 Touhy Avenue
Niles, Illinois, 60714-4608 U.S.A.
Phone: (847) 600-2000
Web: www.Shure.com

Declare under our sole responsibility that the following product

Model: P9T Description: Wireless PSM Transmitter

conforms to the essential requirements and other relevant previsions of the R&TTE Directive (1999/5/EC).

The product complies with the following product family, harmonized or national standards:

ETS EN 301 489-1 V1.8.1 (2008-04)
ETS EN 301 489-9 V1.4.1 (2007-11)
ETSI EN 300 422-1 V1.3.2 (2008-03)
ETSI EN 300 422-2 V1.2.2 (2008-03)
EN 60065:2002 & Amendment 1:2006
EN61000-3-2:2000 Amendment A2:2005
EN 61000-3-3 2005-10 Edition 1.2

The technical documentation is kept at:

Shure Incorporated, Corporate Quality Engineering Division
SHURE Europe GmbH, EMEA Approval

Manufacturer: Shure Incorporated

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